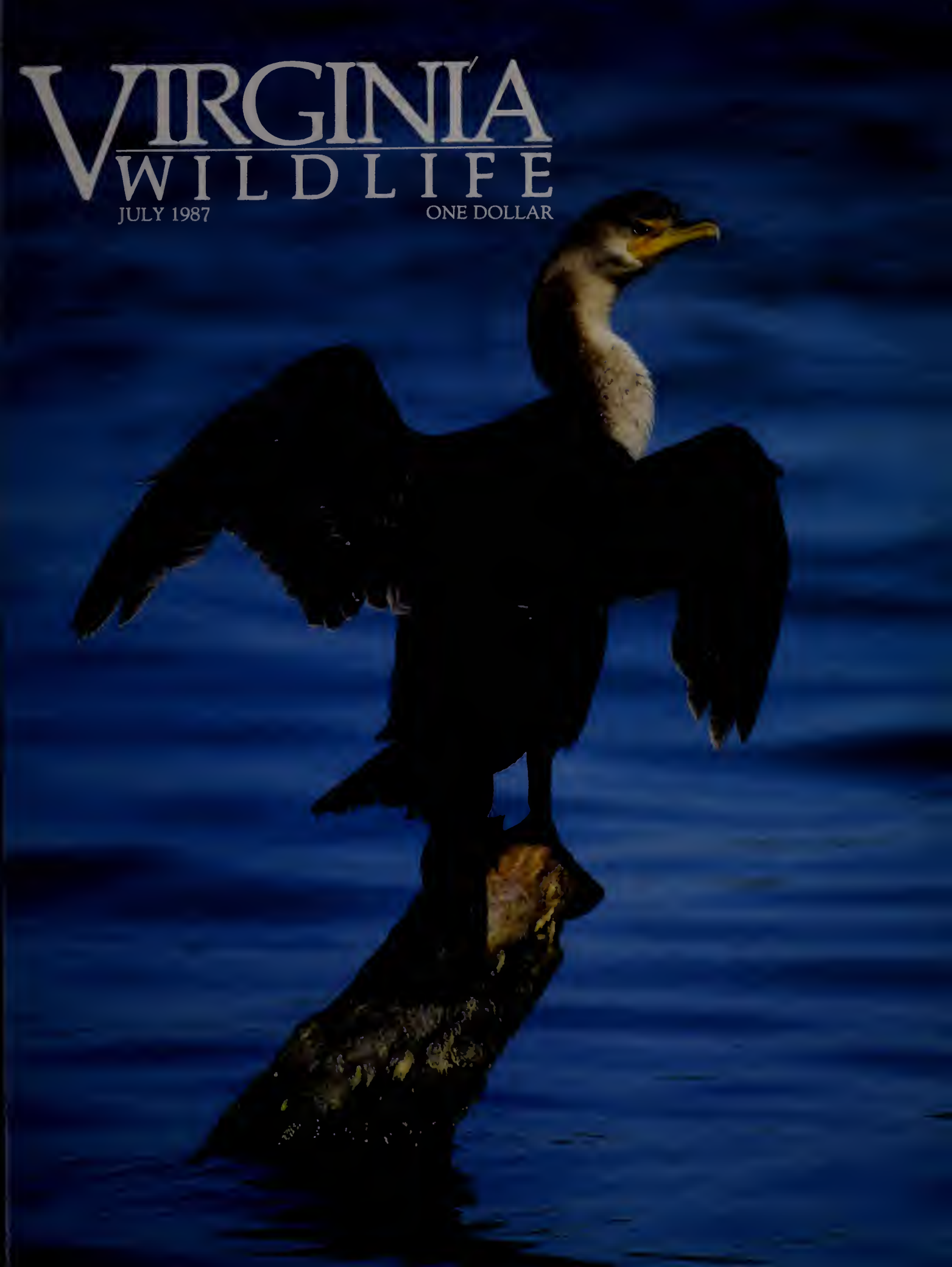
VIRGINIA WILDLIFE

JULY 1987

ONE DOLLAR



VIRGINIA WILDLIFE

It's hot in Virginia in July. It's hard to explain the heat to anyone who isn't a Virginian, and you don't much feel like it, anyway. You just suffer through it, that's all.

Hunters have the worst time of it in the summer. I happen to believe they have it worse than heavy-coated retrievers. Because, you see, there are hunters and there are fishermen. And only rarely do you meet that blessed person who is afflicted with both obsessions.

So, if you're a hunter and not a fisherman, you suffer through the damp ooze of summer. You can't train your dog 'cause he'll croak from the heat before you do, and besides, there's snakes, briars, and bugs out there. You can't shoot skeet, because you'll start to sweat just thinking about raising your gun to your shoulder.

So, most hunters shuffle through the alternatives to air-conditioning glumly. Then, their thoughts rest on fishing. Why not? And for a brief, most wonderful moment, their faces brighten, and they imagine themselves fishermen. They get all worked up about buying some new rod and reel combo and new fishing line and colored worms. They start reading fishing magazines, dreaming of bass tournaments in Florida, and planning involved fishing trips across the state to hold them 'till September.

Sadly, it doesn't last. Like I said, there are hunters and there are fishermen. Just take one of these newly-born "fishermen" up on a fishing trip sometime in the middle of July. You'll see. Watch him set out five lines on the water and pronounce that he has started "fishing." Then look at your watch. After about 10 minutes, if your friend hasn't caught a fish, he'll re-bait all his lines. After 15 minutes, if he hasn't caught a fish, he'll move the boat at high speed halfway down the river. After 30 minutes, he'll glance over at you to see if you are having as good a time as he is with your one measly rod and reel.

Then he'll start rummaging around in the cooler. Then he'll take inventory of all the lures in his tackle box and yours. Then he'll sigh. Then he'll look mournful. Then he'll clear his throat and look at you. "Say, how 'bout if we put this old boat up and take a ride up to Greentops and look at some guns?"

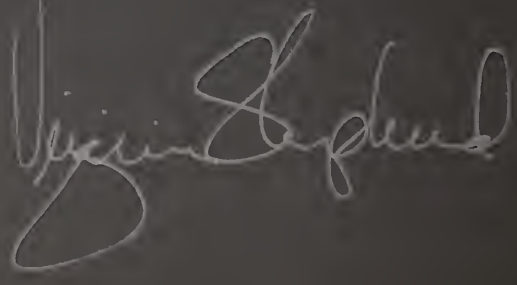
It's a terrible shame. If only most hunters *could* become slightly mad about fishing, it would be the perfect way to end the pain of summer. But, most of 'em can't. I think it has something to do with the fish. It's the fact that most of the time you can't see 'em—I mean, even when you're *hooking* 'em, and that worries hunters. Then again, it might be those shifty-looking eyes, or the lack of any noticeable ears, or maybe the absence of some honest-to-goodness feet or wings. Who knows? Whatever it is, it makes hunters suffer in the summer.

My friend Vernon and I went groundhog hunting last summer up in Lexington. After a directed march across a 400-acre farm—not once, but three times (Vernon is very thorough when it comes to groundhogs), I'd had it. I pulled out my fly rod and waded into the Maury River below the farm. I was having a wonderful time playing with a small popping bug in the riffles, getting wet and not catching a thing, but feeling a few strikes here and there. Vernon had resignedly followed me down to the bank with his high-dollar spinning outfit and started casting. I glanced over in his direction a little while later, and saw his rod on the bank. Vernon was squatting in the sand, turning over rocks. Now, Vernon never turns over rocks. Vernon views life with a purpose, and has never been known to pause over a rock.

Without a doubt, Vernon was suffering. He looked up at me blankly. "Hey, I think there are two, exactly two, groundhogs that I missed up on the ridge. Want to go back and find 'em with me?" As I recall, that was the beginning of a rough summer for Vern.

So, here we are facing another insufferable July. And, my new bird dog puppy has even been acting strangely these days. Keeps flopping down, belly in the shade, nose in the mud. Doesn't move unless he has to, and sighs when he must.

I'm thinking he's going to make one mighty fine huntin' dog.



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If you're a self-proclaimed bobber watcher, you'll learn how to use them even more by reading Jack Randolph's story beginning on page 4. Photo by Lynda Richardson.

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Double-crested cormorant *(Phalacrocorax auritus)*; photo by Curtis Badger.

The Gentle Art of

Fishermen may graduate to bass boats and fish finder electronics, but they never quite outgrow bobbers.

by Jack Randolph
photos by Tim Wright

There's something about the mysterious antics of a bobber when a fish is fooling with the bait. It may bounce a bit, sending off tiny rings on calm water. Or it can simply start to move off slowly, making you think that a big fish has the bait in its maw and is about to take off. Or the bobber may just settle down a bit, looking for all the world as if it were taking on water and sinking. Every strike is different, yet they are all the same. Bobbers have a way of teasing a fellow, of holding his interest, of putting into fishing everything that belongs in it, which, of course, is fun.

Bobbers are called different names in different places. Some folks call 'em "dobbers" and others simply call them "floats." Whatever they're called, they are used mainly to keep baits suspended at certain depths or to signal a bite.

Mention bobbers, and you automatically think of fishing with natural baits such as minnows, crickets or worms. But bobbers are sometimes used in connection with artificial lures. Take crappie, for instance.

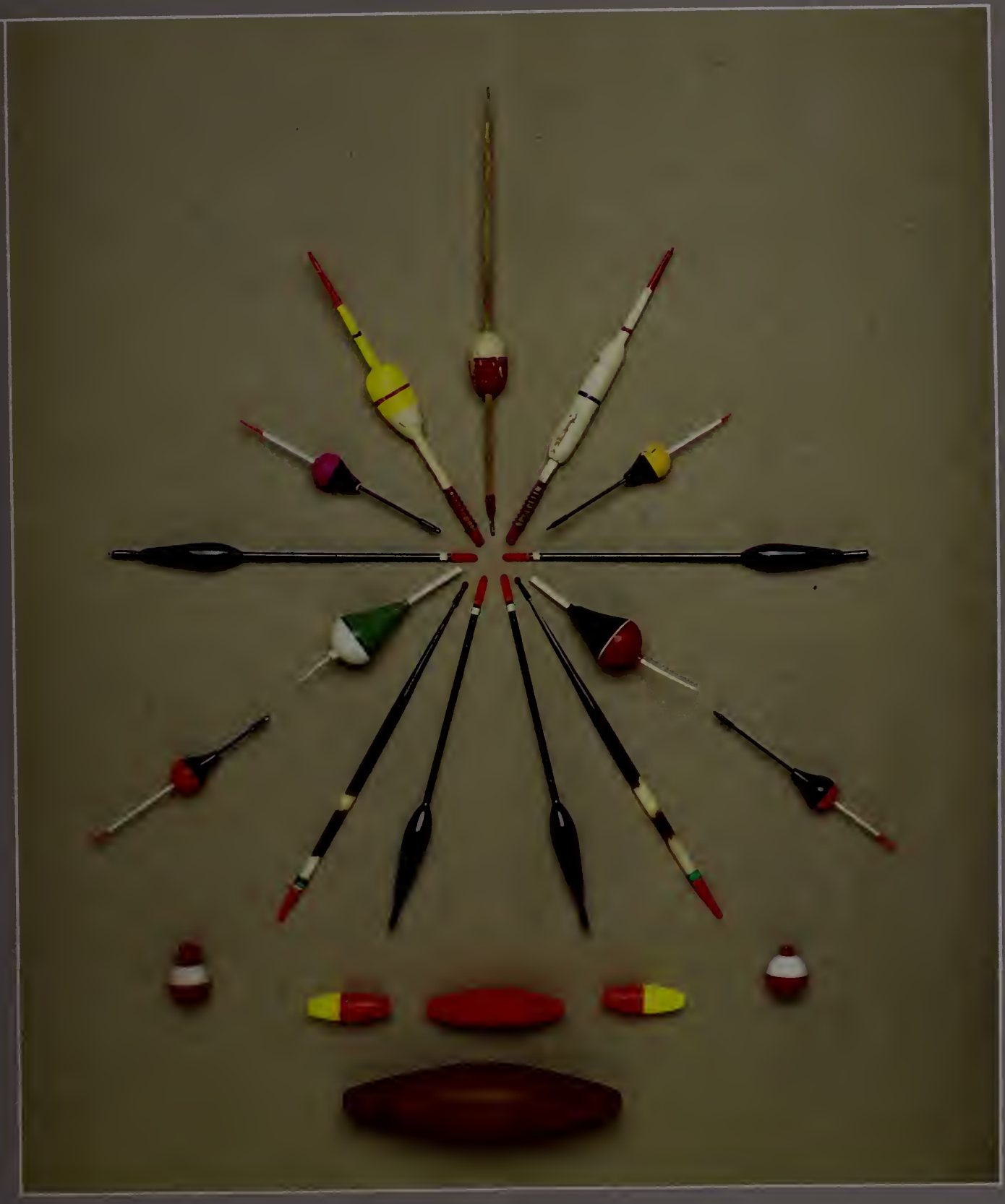
A very effective way to catch crappie is to suspend a pair of shad darts or small crappie jigs, tied a foot apart, several feet below a small bobber. To make this rig work, you simply cast the darts towards a fallen tree, the shore or any other target that suits your fancy and just start popping the bobber across the surface in short spurts. My, how the crappie clobber those little jigs! They hit so hard they pop the bobber clear under.

There's a type of bobber made out of clear plastic that has a little plug in it. The purpose of the plug is to allow you to let a little water into the bobber to give it weight. The purpose of this gimmick, often called a "bubble," is to permit the use of flies with a spinning outfit. Some fishermen tie the fly behind the bubble on a leader about 18 inches long. Others tie the fly on a dropper about three feet in front of the bubble.

When I was first breaking into fishing in the late '30s, I had a plastic, pencil-shaped bobber I was very attached to. The bottom half was green and the top was barber pole striped red and white. There was a wire around the center of the bobber under which you could snap the line and then there was a coil spring at the bottom end to accommodate the line leading to the the hook. When rigged with just the right amount of weight, the bobber stood straight up.

An assortment of panfish bobbers from around the world.

Bobber Watching



It seemed to me that the old bobber would send out signals if a fish just looked at the bait. I used it so much that I knew exactly when to snap the hook into the fish. Some of the same bobbers are still on the market and I try to keep a couple in my tackle box.

For crappie and bream fishing, most experts prefer pencil-shaped or torpedo-shaped bobbers, and like to rig them with just enough split shot above the hook so the bobbers stand straight up in the water.

One very popular bobber is about two or three inches long, torpedo-shaped with a hole clean through the long axis in the center. They are made of cork or foam plastic and come with a wooden or plastic peg that fits into the hole. To use this bobber, one simply runs the line through the hole and keeps it in place by inserting the peg. They are usually painted red or yellow or a combination of the two, using fluorescent paint.

To rig this bobber for bream or crappie, run the line through it as described above and tie an aberdeen style hook at the end of the line. Use size four for crappie or size six or eight for bream. For bream, when using crickets or worms for bait, the split shot sinker should be positioned about a foot above the hook. For crappie, where live minnows are used for bait, put the split shot just above the hook. By positioning the sinker close to the hook the minnow is less apt to wrap the hook around some underwater obstruction.

In some cases, instead of using a hook and sinker, anglers tie a crappie jig to the end of the line and bait it with a minnow hooked through the lips. When rigged in this manner, the jig serves as hook and sinker. Care must be taken to ensure the jig isn't so heavy as to pull the bobber underwater.

A variation of this same rig is used for big striped bass in Lake Prince, near Suffolk. Instead of a crappie jig, Lake Prince striper fishermen use a 3/8 ounce gray trout jig with a 7/0 hook in it. A jumbo minnow is hooked on the jig, hooking it through the lips, and the jig and minnow is suspended just off the bottom under a 1½ or 2-inch diameter bobber. This rig is "back trolled" very slowly, using an electric trolling motor in reverse. The results are often worth bragging about.

The author's "old reliable" panfish bobber.

Another excellent bream and crappie bobber is a quill from an African porcupine. These quills make ultra sensitive bobbers.

The "standard" bobber on the market today is round with a spring loaded brass hook in the center. The end of this hook slips into a hole in the bobber enabling it to pinch the line, holding it where the angler desires. The fisherman can also rotate the hook slightly so it doesn't engage the hole allowing the bobber to slide on the line.

These round bobbers come in sizes ranging from ½-inch in diameter up to two or three inches. The one inch size is practical for most panfish while the inch and a half is excellent for bass and other large freshwater gamefish. Generally these bobbers are red and white in color, but some are a combination of yellow and orange. The American made versions of this bobber have given us better service than the imports.

When fishing for bass or pickerel in shallow water, say four or five feet deep, rigging up a bobber is an easy matter. It is a good idea to tie a snap swivel to the end of the line and snap a snelled hook into the snap. The sinker should be positioned two thirds the distance between the bobber and the hook. For example, if the hook is three feet below the bobber, the sinker should be a foot above the hook. This prevents a live minnow bait from coming up on the surface.

The reason the snap swivel is recommended is to help lessen line twist when casting. Minnows have a tendency to spin in the air.

When you desire to use a bobber in deep water, a different technique is called for, because it is difficult, if not impossible, to cast a bobber with 10 or more feet of line, sinker and hook trailing behind it. This situation calls for a sliding sinker rig. To make this rig, you need a small rubber band, a bead and a bobber. The bobber can be the round, spring-loaded type, or simply one with a hole through it.

To make the sliding sinker rig, decide how deep you want to fish below the bobber and tie a slip knot into the line

at that point. For this illustration lets tie the knot 10 feet up the line. Break the rubber band and place it into the loop of the slip knot and pull the knot tight. Trim the rubber band until it is less than a half inch long.

Next, slip the bead on the line. Beads of 1/16 or 1/8-inch diameter work well. Then slip the bobber on the line. If using the spring loaded bobbers, turn the hook so it will not engage the hole, so it slides on the line. Finally tie the snap swivel to the end of the line, pinch on the sinker and snap on the hook.

With this rig, one can reel the bobber and sinker all the way to the rod tip. When cast, the sinker sinks as the line slides through the bobber. The rubber band will engage the bead which finally engages the bobber, halting the sinker at that point. The bit, or rubber band, incidentally, can be reeled onto the spool of a bait casting or spinning reel with no difficulty.

When I was a boy, we often used bottle corks as bobbers. We simply cut a slit into them with a knife and slipped the line into the slit. Dick Cross, the newly-retired executive director of the Game Department, recalls that when he was a lad he used to look for dried stems of a certain weed in which insects had caused part of the stem to expand into sort of a ball. He'd cut the weed several inches above and below the ball and end up with a dandy panfish bobber.

Corks are also handy for plastic worm fishing, particularly in weedy areas in summer. The rig calls for a plastic worm hooked in the conventional manner on a worm hook or a weedless hook. No sinker is used. Instead, a small cork with a slit in it is positioned right against the eye of the hook. Just cast the rig into the weeds and pop the cork. Bass have a hard time resisting the wriggling plastic worm behind the cork.

Bobbers can be used effectively in salt water, too. I've done well on cobia, fishing a four-inch pinfish several feet below a two-inch diameter bobber in North Carolina's Pamlico Sound. I've also used bobbers above hooks baited with grass shrimp or peeler crabs to catch gray trout and striped bass.

"Certainly, there are more sophisticated ways to fish than with a bobber, but all of us, no matter how or where we fish, will come back to bobbers sooner or later."

This spring, while fishing for bass and pickerel with live minnows in a private pond, our daughter, Patty, encountered a problem common to fishermen who use bobbers. She had no trouble casting her bobber and minnow bait out, but within a couple of minutes the bobber would come right back to her.

The problem was her line had been on the reel all winter and after each cast the line's "memory" caused it to pull itself into tight loops, pulling the bait back to shore. The remedy is to replace the line or to "erase" the memory by gripping the line with a piece of rubber in your hand (a piece of inner tube works fine), and pulling the line through the tightly squeezed rubber.

Some anglers have problems hooking a fish when using bobbers, particularly when using minnows for bait. Normally, when a fish grabs a minnow, the first attack is designed to kill the minnow. The fish hits the bait any way it can. This may be signaled to the angler by the bobber skittering across the surface or suddenly disappearing. The fisherman's instinct is to try to set the hook as soon as the bobber disappears or starts to move off quickly.

It is generally best to wait. The fish usually stops his first run and then takes the bait head first to swallow it. Because of the possibility of fins getting caught in its throat, predator fish almost always swallow their prey head first. The best time to set the hook is several seconds after the fish starts its second run.

When setting the hook, be sure that all of the slack is out of the line so that when your rear back on the rod you can feel the fish. Be careful to avoid tightening the line so fast that the fish feels you before you are prepared to set the hook. This could cause the fish to drop the bait. It takes a little practice, but once you get the hang of it you'll hook more than you'll lose.

Certainly, there are more sophisticated ways to fish than with a bobber, but all of us, no matter how or where we fish, will come back to bobbers sooner or later. It's sorta like coming home. □

Jack Randolph is assistant director of the Game Department and an avid fisherman.

In the past 30 years, the population of black ducks has dropped 60 percent. It's an alarming statistic, but even more troubling is that in the past 30 years, no one has been able to figure out exactly why. For 30 years, the best minds of state, federal, and private conservation organizations have searched for solutions, but still this noble bird of the salt marsh seems to be marching resolutely toward extinction.

The problem is that there seems to be no single solution, no hulking villain to conquer. Instead, the black duck, and many other waterfowl, are victimized by an entire shopping list of maladies, most of which are not easily or quickly cured.

Over the past several years, there have been numerous explanations for the decline and fall of waterfowl. Most groups concerned with the issue push their favorite theories, from loss of habitat to hunting pressure. But now comes evidence that the gravest danger to North American waterfowl might be an issue that has been virtually overlooked, at least as it pertains to ducks and geese. Acid rain has been an environmental issue for more than a decade in the U.S., Canada and Europe, mainly in regard to its effect on freshwater fisheries and forests. But recent studies show an alarming connection between acid rain and waterfowl mortality, and if scientists are correct, another formidable villain must be added to the list of those waterfowl populations must overcome.

Let's first, however, look at five other issues that have been sharing the blame in varying degrees for declining duck populations, and then see how acid rain fits in with this cast of characters.

Overhunting. This is a very visible villain, and therefore one easily accused, especially by anti-hunting lobbyists. The problem is that bag limits for black ducks have been reduced in the past several years, but the birds have shown no sign of recovery. We could, of course, close the season on blacks. The question is, would it be enough? It

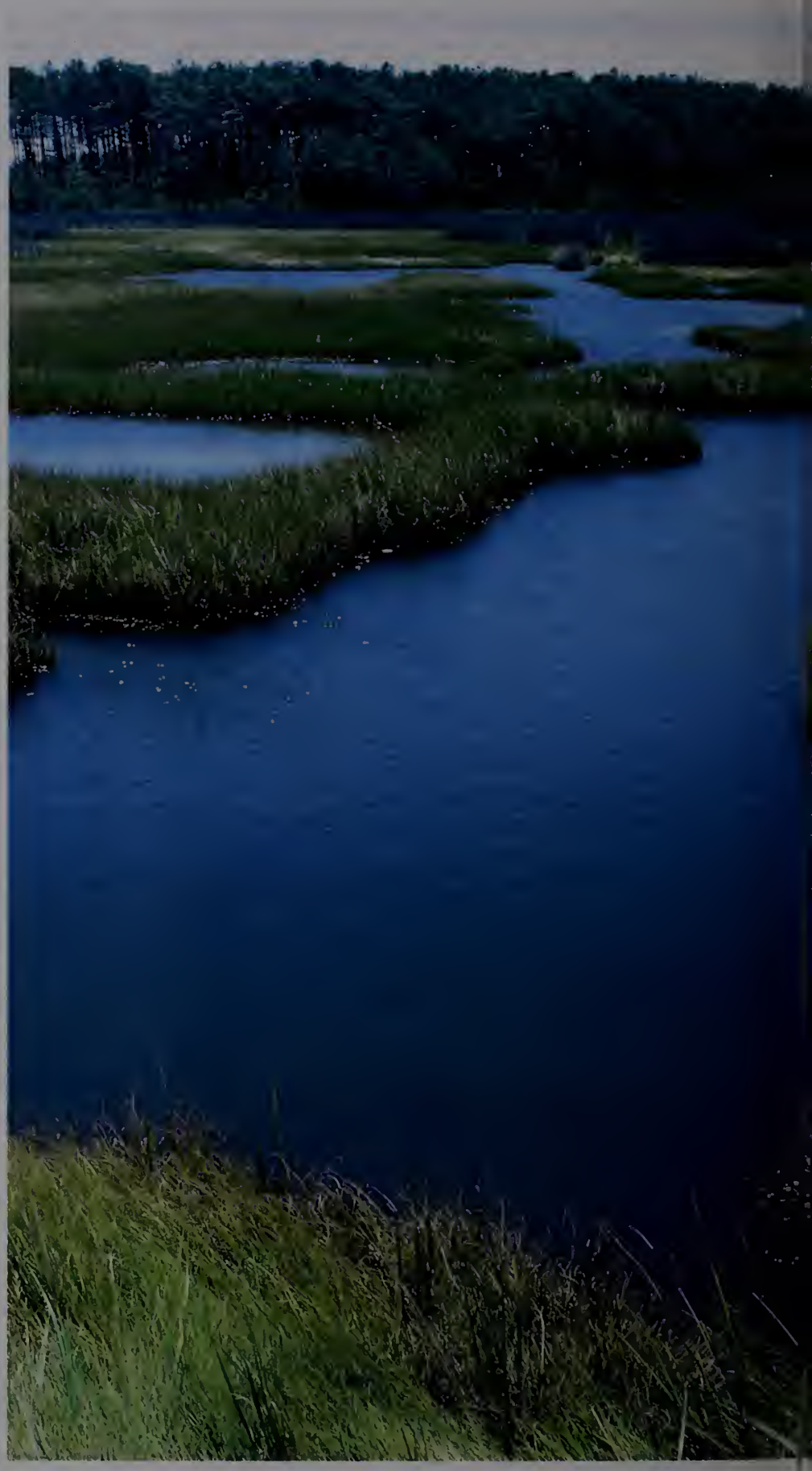
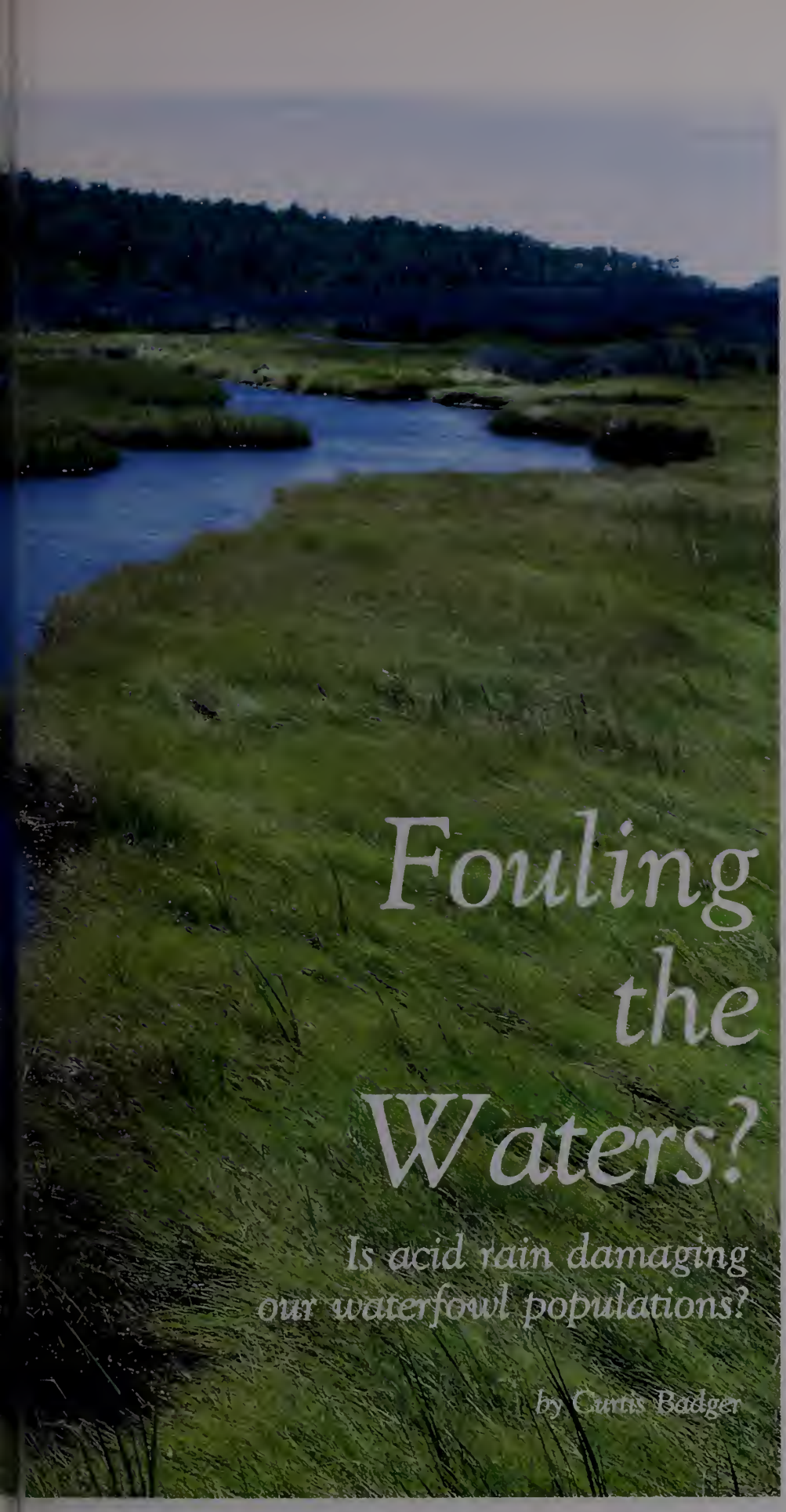


photo by Curtis Badger



Fouling the Waters?

Is acid rain damaging our waterfowl populations?

by Curtis Badger

could be a finger-in-the-dike approach while long term problems are being corrected.

Habitat loss. When a marsh is filled, a pothole drained, waterfowl lose important breeding and wintering habitat, forcing more birds to compete for less space, making more birds vulnerable to predators and disease. Despite the efforts of federal and state programs and private groups such as Ducks Unlimited, habitat loss continues in many areas, and the populations of most waterfowl continue to decline. At issue is the nation's willingness to preserve wetlands in the face of population growth and industrial demand. In regard to wetlands, America has been living off its principal, draining and filling and building to make a quick buck, while foregoing the long term benefits that such important habitat might bring.

Lead poisoning. Hunters have been warned of the dangers of lead shot poisoning for close to a century. George Bird Grinnel wrote in *Forest & Stream* magazine in 1894 of waterfowl dying of "croup" in Currituck Sound. The illness was caused by lead poisoning, incurred when the fowl ingested spent lead shot along with gravel and sand. So 93 years later, hunters are painfully and protestingly being weaned. Why did it take so long?

Environmental contaminants. This is a broad but often elusive category of concern. The pesticide DDT has been shown to reduce the hatchability of black ducks (and many other species of birds) by thinning eggshells and certainly this was a factor in the duck's decline in the 1950s and 1960s, when it was widely used for mosquito control. DDT was banned in the U.S. in 1972, but, in classsic "out-of-sight, out-of-mind" logic, it is still being used in other countries. Agricultural pesticides banned in this country by EPA as dangerous to wildlife and humans are used in Central and South America, often with the blessing of our Department of Agriculture. In the industrial Northeast, families are being warned to limit their intake of ducks, especially fish-eaters such as mergansers, because of the dangers of heavy metals and other contaminants.

Hybridization. A not uncommon sight at the Chincoteague National Wildlife Refuge on Assateague Island is a duck that resembles a black duck, but whose head shows the mottled green markings passed down from its mallard ancestry. Someone has taken a stirring stick to this bird's gene pool. For more than a century, the black duck has been the prize gamebird of coastal salt marshes because it is a smart, elusive quarry. Many of the mallards which are marrying into the family are of pen-raised stock, released by East Coast states to supplement the bags of waterfowl hunters. Mallards greatly outnumber blacks, and it is feared that interbreeding will soon destroy the characteristics that make the black duck such a prize, and eventually destroy the black duck's integrity as a species.

Each of these five issues has its followers, true believers who are willing to assign guilt; to say "yes, if we could fix this, everything would be okay." But most conservation professionals today believe that waterfowl suffer not so much from one specific source, but from a number of sins.

And what of acid rain? How does that fit into the equation? Let's consider the evidence.

The waterfowl breeding areas of the Northeast are receiving the heaviest levels of acid rain in North America. The heaviest concentrations coincide closely with the black duck's breeding range, and the decline of the black duck since 1955 parallels the increase of acid deposition in the region. From 1955 until 1970, acidic emissions increased by 45 to 50 percent. The numbers of black ducks in the Atlantic Flyway decreased by almost the same percentage during that period.

Although blacks and other dabbling ducks normally eat plants, hens need a great deal of protein and calcium during the spring egg-laying cycles, and

The decline in the black duck population can't be pinned down to one simple explanation. Rather, habitat loss, hybridization, pesticides, and now, perhaps, even acid rain, are taking their toll of the population; photo by Lynda Richardson.

ducklings need protein to provide tissue syntheses and rapid growth. These nutrients come from aquatic insects such as dragonfly larvae, snails, slugs, leeches, sponges, and other marine animals which cannot survive at high levels of acidity. Plus, the breeding area of the black duck is low in alkalinity, reducing the possibility that the soil and water could buffer the effect of acid rain.

In addition, the black duck breeds early in the spring, at a time when snowmelt creates "acid shock," a severe increase in acidity that occurs when spring runoff dumps the bulk of winter's acid precipitation into lakes and wetlands. As the black duck's breeding season begins, its nutritional needs are highest, and the impact of acid shock on its food source is also highest.

To determine how damaging the acid rain/waterfowl relationship is, researchers at the Patuxent Wildlife Research Center in Laurel, Maryland have been experimenting with broods of black ducks raised in acidic and neutral environments. Specifically, they constructed a number of identical wetland brood habitats, maintaining some at an acidic pH of 5, which is slightly less acidic than the average pH of the black duck's breeding range, and other control wetlands at a nearly neutral pH of 6.8. You might recall from your high school chemistry course that pH is a measure of acidity/alkalinity based on a logarithmic scale, thus water at a pH of 4 is ten times more acidic than water at pH 5, and 100 times more acidic than water at pH 6. Presently, the pH of average annual rainfall in most states east of the Mississippi is less than pH 4.5; in the breeding area of black ducks in the Northeastern U.S. and Canada the average pH of precipitation is less than 4.2.

Nine black duck broods, each consisting of a female and four 10-day-old ducklings, were placed for 10 days in the acidified wetlands, and nine other broods were placed on the neutral wetlands.

Of the 36 ducklings exposed to the acidified wetlands, 18 died and only two gained more than five percent of their original weight. On the control wetlands, 23 ducklings gained more than five percent of their original weight, and only five died. Three trials were performed over a two-year period, and the results were consistent throughout.

Concluded the Patuxent researchers, "Given this set of wetland conditions, this experiment clearly demonstrated the deleterious effect of acidification on duckling productivity."

Studies also have shown that naturally acidic lakes are less suitable for ducks than are neutral waters. According to a recent Izaak Walton League report on waterfowl and acid rain, researchers in Quebec found that in acidic lakes, fish and ducklings are forced to compete for limited aquatic prey species. Because fish are more mobile and efficient aquatic predators, they have a distinct advantage over ducklings. Ontario biologists estimate that 105,000 breeding pairs of waterfowl are threatened in that area because they live on waters that are both sensitive to acid rain and that are currently receiving high levels of acidity. Species most threatened include black ducks, ring-necked ducks, common goldeneye, common and hooded mergansers, mallard, teal, wood duck, and common loon.

The situation is alarming, says Dr. Frank C. Bellrose, principal scientist and wildlife specialist with the Illinois Natural History survey. Of the Izaak Walton League report and the Patuxent studies, Dr. Bellrose says that even though based on preliminary research findings, it "presents alarming information that acid rain may be a real, and certainly is a potential, source of degradation for waterfowl breeding habitat. It behooves the environmental community to use this report as a catalyst for intensified action on acid rain—action to further research on evaluating the parameters of its effect upon waterfowl and action to begin limiting the emission of sulfur dioxide."

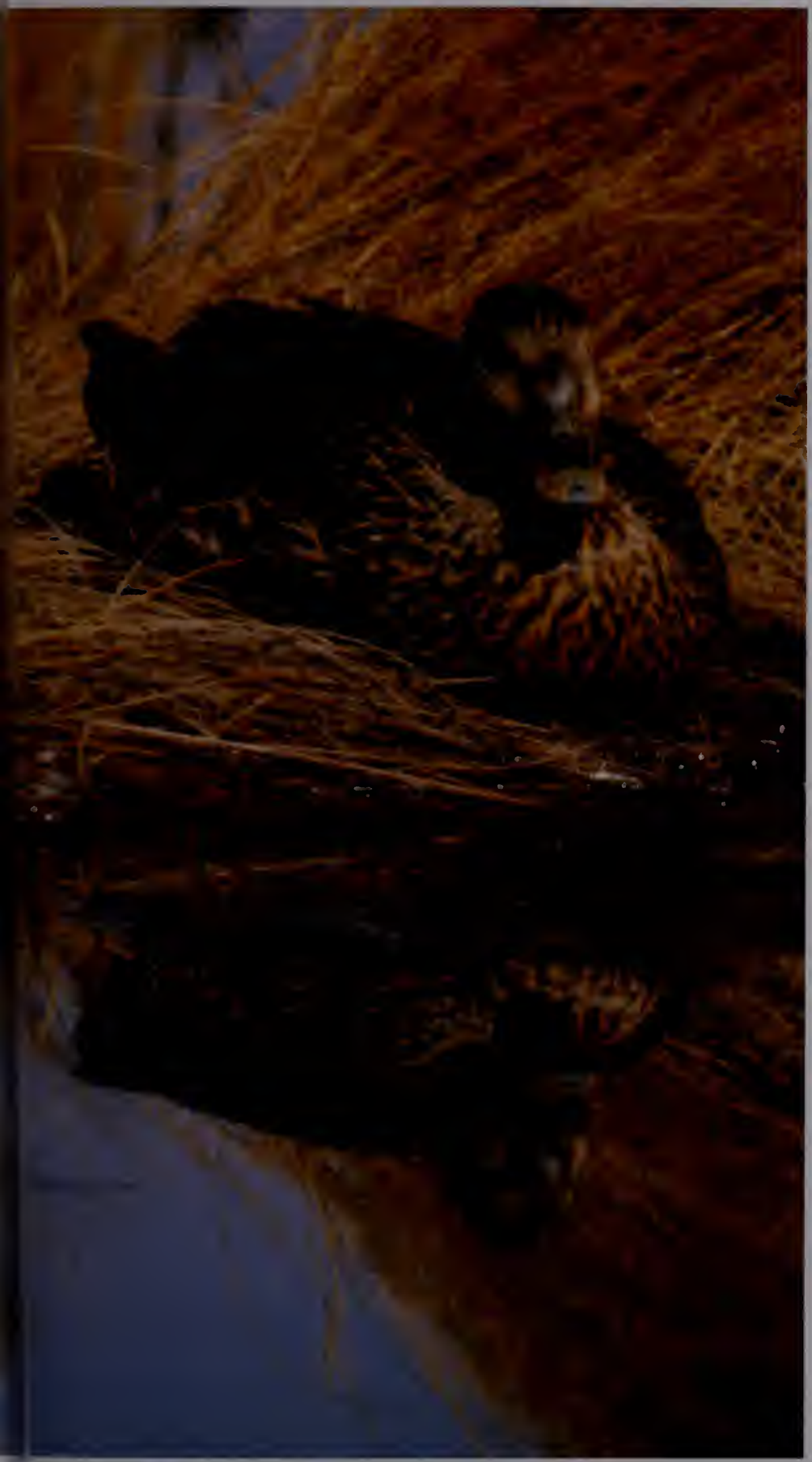
Although acid rain is popularly seen as a problem confronting Northeastern United States and Canada, such is no longer the case. The mountains of western Virginia have experienced some spruce die-off attributable to acid

rain, and the Fish Division of the Department of Game and Inland Fisheries is currently studying some 400 trout streams to determine the extent of the problem. In a Game Department/University of Virginia study funded by Wallop-Breaux excise tax funds, biologists are surveying Virginia streams to determine those most at risk. "Virginia streams could be pretty drastically affected in the long run," says Bill Neal, the Game Department's Environmental Coordinator. "Some streams have no buffering agents, such as limestone, and are much more vulnerable to acid rain than others. Our plan is to identify and isolate these streams."

Researchers plan to take water samples of all 400 streams surveyed, identify the streams most at risk, then take a cross section of 12 streams which will undergo monthly chemical analyses. This project will serve as Virginia's "canary in the coal mine," regularly monitoring the effects of acid deposition.

A second study at Brookneal on the Staunton River is attempting to determine whether acid rain in the mountains could cause dangerous levels of heavy metals such as aluminum in the Piedmont. It is known that increased acidity causes metals such as aluminum to precipitate out, and scientists want to know what effect this is having on the watershed. The implication for estuaries such as the Chesapeake Bay is apparent.

The association of acid rain and waterfowl is a fairly recent issue, one that has thus far gotten little notice and consequently little research money. "Acid rain is something we should know more about," says Fax Settle, supervising biologist with the Game Department. "At the state level there have not been studies of its effect on waterfowl, but it should be looked into. The problem with waterfowl populations is a result of a multitude of things, but acid rain certainly needs to be studied. The problem is that it will be a very expensive problem to correct, and improvement will not happen overnight. It's not something that will correct itself in one growing cycle. If a body of water has become sterile, it



Because of the killing effect increased water acidity has on water-dwelling insects and other critical food items for breeding waterfowl, acid rain looms as a threat to waterfowl populations; photo by Curtis Badger.

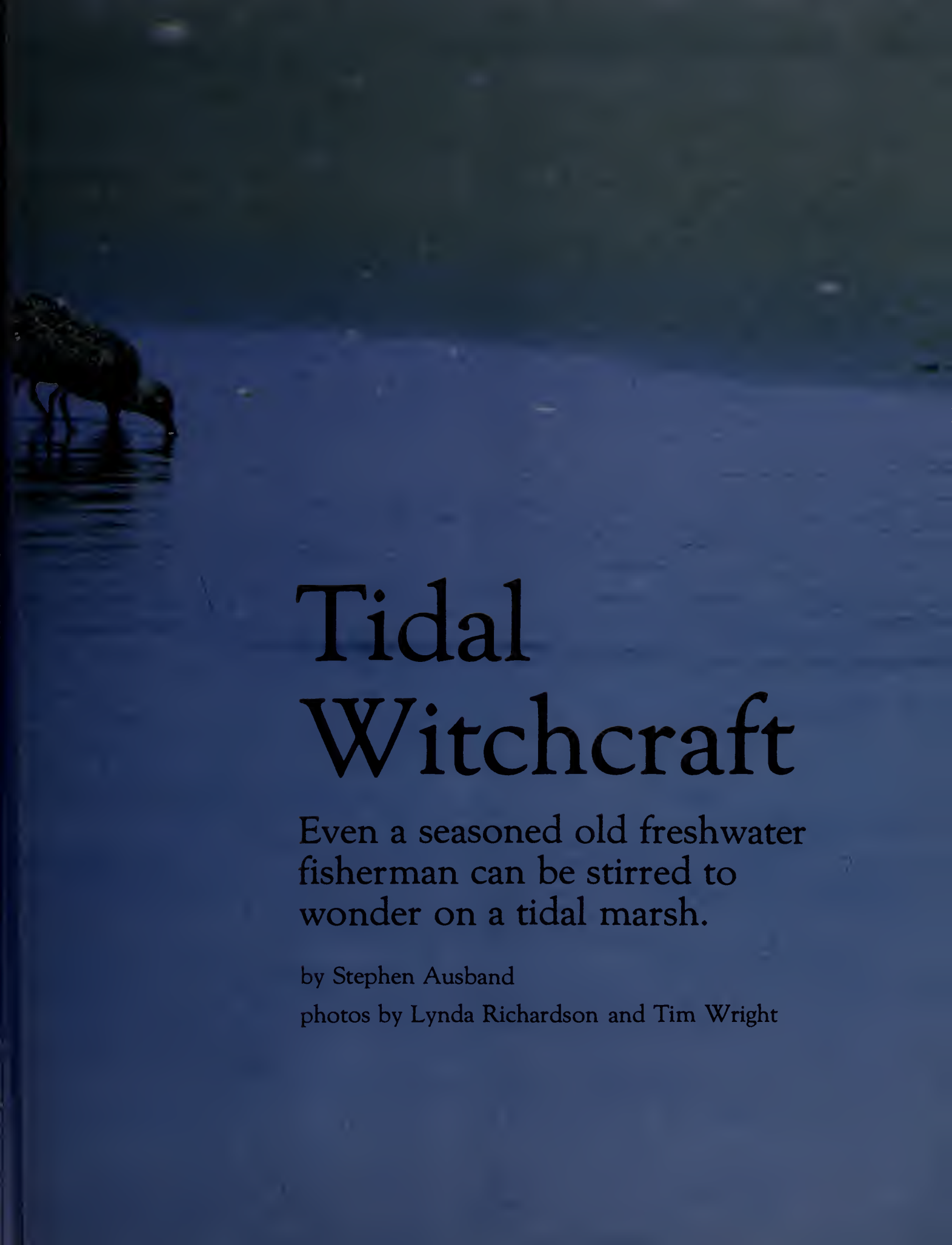
will take some time to regenerate."

No one knows yet just how pervasive the acid rain/waterfowl problem is, but most agree that the evidence gathered thus far is alarming. Of great concern is the manner in which acid rain could act in concert with other problems facing waterfowl, especially other environmental contaminants. Metals in bedrock and soil dissolve more readily in runoff with a lowered pH, which releases more of these metals into the food chain. Increased levels of heavy metals have been found in fish and insects in acidic waters, and because birds often occupy a position high in the food chain where toxins accumulate, the risk of contamination is more likely in an acidic environment.

There is concern, too, that acid rain is placing at risk the hundreds of thousands of acres of wetlands habitat being preserved and restored for waterfowl survival. Said the Izaak Walton League study: "Billions of dollars are now being spent in North America to purchase, manage, restore, protect, and otherwise maintain the aquatic areas on which the survival of America's waterfowl depends. To protect this investment and this resource, we now need to work as vigorously to limit the acidic pollutants threatening our nation's fish and wildlife."

The acid rain problem is broader than waterfowl, and the waterfowl problem is broader than acid rain. The thing to keep in mind is the interconnections of things, of how the well-being of one system is dependent upon the well-being of all others. If there is any good news in all of this, perhaps it is that these studies will again sound the alarm, mobilizing a new segment of concerned citizens who will demand action against the environmental contamination that causes acid rain. □

Curtis Badger is director of publications for the Wildlife Art Museum of the Ward Foundation in Maryland and is a frequent contributor to Virginia Wildlife.



Tidal Witchcraft

Even a seasoned old freshwater fisherman can be stirred to wonder on a tidal marsh.

by Stephen Ausband

photos by Lynda Richardson and Tim Wright

There are times when I like to recall Emerson's musings about miracles, and the apparent lack of them in the modern world. "What if the stars just came out once in a thousand years?" he asked. Then what would you have to call the thing that happens every night?

As for me, I had forgotten what a wonder it is poking around in a small boat in salt water, fishing a little, running a few crab pots, throwing a cast net for menhaden or mullet as big as panfish, then using them for bait and hoping for a king mackerel or a cobia almost as long as a man. Even pulling up to a beach or a line of marsh grass and getting out for a walk along the edge is a special adventure. There are strange, multi-legged and clawed creatures dragging shells awkwardly across the rough bottom, improbable starfish, here and there the beached jellyfish, its form shrinking in the sun like the body of a monster in a fairytale. Periwinkles cling to the grass stems; a horseshoe crab lies half-buried in the sand.

And the fish! Flounder with teeth like a dog's and both eyes on one side of its head, the other side as bare and blank as a wall; schools of slashing bluefish; bottom feeders with bars and spots and quite random splotches; fish with teeth like those of a sheep; a pair of basking rays like great gliding throw rugs on the water; a small shark, its sinuous movements redefining the word "graceful." There is nothing like this inland, I think, nothing at all. And the wonder is that anyone can take it for granted.

But we see all this the way we see everything else, with an eye grown accustomed to the miraculous, so that nothing really surprises. Only sometimes a child or a newcomer to the scene will express his own wonder at the everyday (Look! this crab is soft; he feels like paper!"), and the scales are lifted again from our eyes and we can see as we should—freshly. It happened to me when I took my father-in-law fishing.

Lloyd has fished and hunted all his life. He grew up in the deep South, in Alabama and Mississippi, and he spent most of his working years in Memphis, Tennessee. At 70 years old, he is intimately familiar with the pursuit of deer

and squirrels and turkeys, and he is something of a specialist in fishing for slab-sided crappie and bream in the quiet lakes and river cut-offs near Memphis. But while he had been on a charter boat in the ocean and the Gulf, he had never explored the salt marshes and inlets and sounds to become familiar with the goings-on of an estuary, where life is so prolific and diverse that the imagination balks at comprehending even a part of it.

I began his introduction to this new world gently, by taking him to an inlet jetty on a calm day in early summer, and anchoring in the quiet water. The tide had just changed, and clear green water flowed around us and around the rocks a short cast away as our bow swung into the current. It was a fishy-looking day. I cut squid strips and baited two-hook bottom rigs, and immediately both of us had fish. We caught nothing at all spectacular—some chunky pigfish, a dozen eating-size black sea bass, pinfish, several nice porgies.

But it was an auspicious beginning. The action was constant. Going to that particular jetty is a lot like going to a well-stocked refrigerator, anyway, especially if one is simply looking for fish and isn't too particular about what kind of fish they are. We fished for an hour and a half, then took the largest bass and some of the porgies home for a quick meal. I put the fish heads in two crab traps and hung them off the end of a dock. Late in the afternoon, after more fishing, we pulled the traps and got enough crabs for supper. On the second day of running the traps, we found three softshells, which entailed a good deal of explaining and some unparalleled eating.

We caught a few flounder, a handful of small bluefish, and more sea bass than I would have thought could live together along one jetty. We watched porpoises and a huge, barnacle-encrusted old loggerhead turtle, its flippers nearly as wide as boat paddles. Pelicans sat on posts or soared and dived on their own fishing trips. We looked at oyster beds that would be productive in cold weather, and we dug clams at low tide, finding whelks and sea urchins and starfish that were at least as interesting as the quarry we sought.

For Lloyd, everything was different

"In the fading light, the marsh grass is losing its intense green, but we can still see clearly the tidal creeks shimmering in the sunset and the line of dunes and low trees on the ocean side."

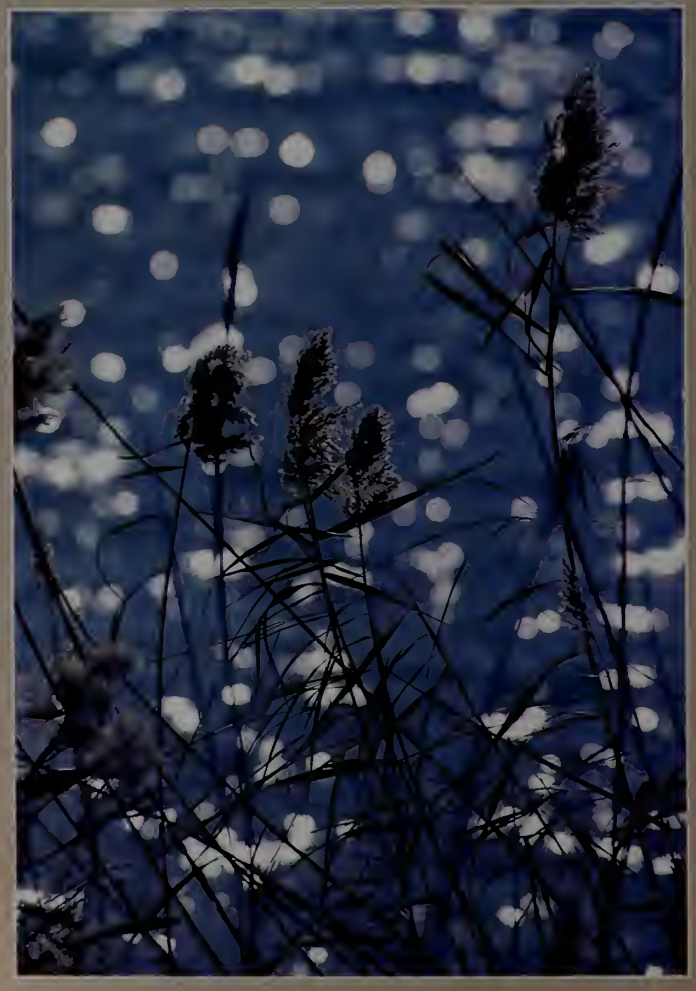
and wonderful. Even the boats were different. He was familiar with the usual assortment of john boats and cartoppers that one always finds in calm water, fresh or salt, and the offshore party boats were predictably huge.

But the trim center-console models and other self-bailing, salty designs were new and intriguing. One does not find names like Mako and Grady-White and Sea Ox much in the lakes around Memphis. He was especially impressed by the emphasis on open work space, an emphasis that frequently demanded putting two enormous engines behind the transom, leaving a 25-foot boat as open as a gymnasium floor. A practical man, he was quick to see the sensibility of the design, it is an accomodation to the demands of the sea.

He marvelled at the tides. To the farmer, the seasons are more than their names or the necessity to buy heating fuel or kilowatt hours to run an air conditioner. To the hunter of migratory waterfowl or of deer and turkeys, seasonal and climatic changes play important roles in shaping his ventures. Farmers and hunters—anyone who has reasons other than curiosity to mark the changes in the seasons and weather—are more or less aware of being bound up in some ancient and complex life cycle that goes on with or without them. To anyone with enough awareness to feel a part of such cycles and enough sensitivity to be at least a little awed by them, the changing of the tides must inevitably seem like the inhalation and exhalation of life itself.

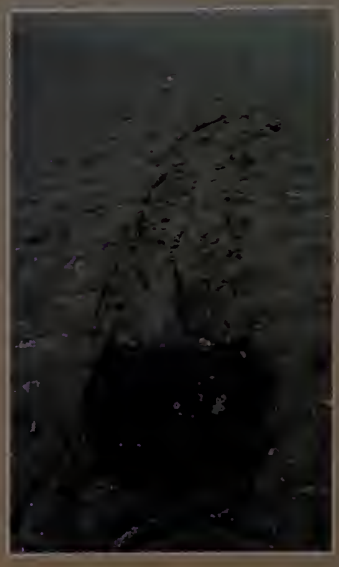
Changes on the salt marshes and mud flats and oyster bars are anything but subtle. There is a gross and teeming profusion of life in tidal creeks at high water, life feeding on life. When the water drops, the survivors can be seen swimming, crawling or burrowing away. The next tide flushes out the remains of those that did not survive, bringing with it more life.

One can read all the essays ever written about the value of saltwater estuaries, and might even begin to understand their importance. Yes, we nod: estuaries are breeding grounds for all sorts of fish and shellfish. Our brain acknowledges a fact. But one throw of a cast net along a grassy shoreline, and facts become dull. Now something more basic responds, something that has little to do with our ability to read about life, and everything to do with



Hog Island.

Seaside sparrow (Ammodramus maritimus) *on the Eastern Shore.*



Horseshoe crab on the Eastern Shore.

our ability to savor it. A clam rake turns up things that wriggle, things that burrow, things that crawl, and things that fight the tines. A cast net produces juvenile shrimp, crabs, and fish with long antennae or legs instead of fins.

We pick up a horseshoe crab, its form apparently identical to those of its ancestors locked in stone in mountains hundreds of miles and millions of years from any sea. Persistence, that's what counts. I unhook a Spanish mackerel, one of the most handsome fish in the summer sea. This is what a fish ought to look like. I throw back in quick succession an inshore lizard fish and an oyster toad. Either could have been designed only by a maniac with a grim sense of humor. The toad tries to bite me.

We work the edges of the sea, where the older man, accustomed to ponds and river cut-offs, is comfortable in a 16-foot boat. Only once do we go offshore, and then only three miles, to fish over a sunken tug. We catch sea bass and porgies, a few more blues, and try unsuccessfully to coax an amberjack or a cobia or perhaps a king mackerel to hit a live menhaden. Lloyd doesn't say so, but I know to him the fishing inshore is more interesting—anchored by the jetty or drifting along the channels between marshy islands, waiting for flounder. Inshore is where the life is. It's a bit like watching the first chapters of Genesis instead of reading them.

At sunset on the third day, he stands on the dock and looks across the inland waterway toward the barrier island. In the fading light, the marsh grass is losing its intense green, but we can still see clearly the tidal creeks shimmering in the sunset and the line of dunes and low trees on the ocean side.

"It's so much," he says. For a second I think he means so much water, or maybe so much marsh grass or so big an expanse of marsh and creeks and ocean. But that is stupid, the uninspired guessing of a man who is dulled to magic, to miracles. It is so much life, he means.

"Yes," I say. "It's so much." The sun sets and there is nothing else to say right then. So, we turn and walk toward the car. Later we will talk about ordinary things. □

Stephen Ausband is the chairman of the English Department of Averett College in Danville, and is a frequent contributor to Virginia Wildlife.

Typical marsh grass washed up on the Eastern Shore.

Red-winged blackbird (Agelaius phoeniceus) *on the Eastern Shore.*

by Randall Shank

A Gift For The Bay

A gift of land through a conservation easement not only protects open space and farmland—it can protect the Chesapeake Bay as well.

A sea gull glides through the blue of the sky, over the land, and on across a slow-moving tidal river. The bird, blown by the wind, becomes a mere speck, and then it is gone. In the distance, an osprey propels itself into the air from the branches of a lone dead cypress tree. Under the water in the river, the herring, shad, and stripers are making their annual spring spawning migration.

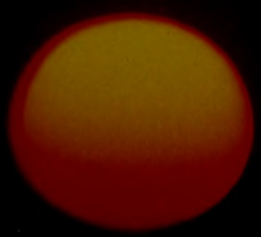
On the land, great flocks of Canada geese graze the winter wheat, making a great fuss at the mere hint of an intruder. Across the river in the marsh, the mounds of muskrat houses stick up out of the mud. There are no cars, no people, no steady drones of chainsaws, and on this day not even a motorboat disturbs the quiet.

Yet, within a 500-mile radius of this tidal river lives 60 percent of our nation's population. In Virginia, there is a mass of humanity stretching from Northern Virginia down the I-95 corridor to Richmond, and on to the burgeoning Virginia Beach area. This influx of people is creating problems for one of the world's greatest estuaries, the Chesapeake Bay.

In Virginia, the Bay's largest tributaries are the James, the York, the Rappahannock, and the Potomac rivers. There still remain out-of-the-way places on these rivers that have not been negatively impacted by man, but when the tributaries and the Bay as a whole are taken into account, man's impact has been devastatingly great.

It is expected that by the year 2000, a 43 percent population increase will occur in the York River basin, and a 40 percent increase in the basin of the Rappahannock River. This increase in population will trigger a greater demand for a freshwater drinking supply, sewage disposal, an increase in soil and

Opposite: *Fishing on the Chesapeake Bay; photo by Bill Portlock.*



other pollution runoff, and increased construction activity and road building. All of this looks grim for water quality in the Chesapeake Bay.

Even now, the Chesapeake Bay ecosystem is hurting. In 1965, submerged aquatic vegetation, a key element in maintaining the health of the system was found in all of the major drainages of the Bay in Virginia. Today, there are only remnants of the vast areas of grasses in our rivers.

Depending on sunlight filtering into the water to stimulate the photosynthetic process, the grasses have been snuffed out by increased turbidity in the water—caused by an increase of soil runoff and other pollutants into the waters of the Bay.

Like any ecosystem, all of the living organisms within the system are interrelated. The grasses are an important part of the Bay's food chain. So, as grasses have died, so have the invertebrates that feed on the decaying vegetable matter, and in turn, many species of fish and inhabitants of the Bay have declined.

Wetlands are also disappearing from the shores of tributaries to the Bay. With the loss of these natural boundaries between land and water also disappears a "cleansing" system, for wetlands absorb soil runoff, and other organic and inorganic pollution before it can reach the Bay. In addition, the loss of wetlands means the loss of one of the richest habitats for wildlife.

Not only is the decline of the Chesapeake Bay causing a hardship on the wild creatures that use the Bay, but it is also causing difficulties for man. Ironically, as man's numbers and activities increase, his need for solitude—for a piece of open, wild space to retreat to—increases. In 1796, an Indian chief said to the governor of Pennsylvania, "We love quiet, we suffer the mouse to play; when the woods are rustled by the wind, we fear not." We, like the Indian, need quiet places where we can see an osprey soar effortlessly through the sky, and hear only the lapping of the water upon the sand. Just knowing that there are rockfish and oysters still alive in the waters of a creek, a river, or the Bay, gives a man a sense that life is good. And so, as the health of the Bay

Ospreys are just one of the countless wildlife species that profit from the progressive foresight of Bay landowners who have put their properties under conservation easements, photo by Lynda Richardson.

Land Stewards

In addition to the Chesapeake Bay Foundation and the Virginia Outdoors Foundation, there are several groups dedicated to helping landowners protect their land. The list below has been excerpted from a soon-to-be-published booklet by the Virginia Outdoors Foundation.

American Farmland Trust
1717 Massachusetts Avenue, N.W.
Washington, D.C. 20036
(202) 332-0769

The American Farmland Trust is a nonprofit membership organization committed to the conservation of agricultural land and the promotion of farming opportunity through public education; the development of conservation-oriented public policies and programs; and the demonstration of private land conservancy techniques. The Trust holds conservation easements on farmland in several states, including Virginia.

Land Trust Exchange
Box 364
Bar Harbor, Maine 04609
(207) 288-9751

The Land Trust Exchange is a membership organization which acts as an information clearinghouse for land trusts and protection techniques; provides material on conservation-minded estate planning; conducts educational programs; and publishes *Exchange*, a quarterly newsletter.

Preservation Alliance of Virginia
120 South Augusta Street
Staunton, Virginia 24401
(703) 885-7676

The Alliance is a statewide, nonprofit preservation organization whose membership is composed of local organizations concerned with the protection of historic and natural resources.

Cooperative Extension Service
U.S. Department of Agriculture
Virginia Polytechnic Institute and State University
Blacksburg, Virginia 24061
(703) 961-5954

The Cooperative Extension Service offers advice to landowners on agriculture and natural resource protection.

Lower James River Association
P.O. Box 110
Richmond, Virginia 23201
(804) 730-2898

The Lower James River Association is a nonprofit membership organization seeking to preserve the scenic, environmental, historical, and recreational qualities of that portion of the James River between Richmond and Hampton Roads. Among other things the association works to coordinate long-range planning for the river with local governments, landowners; and user groups, and to promote and encourage habitat protection and recreational use along the river.

The Nature Conservancy
Virginia Chapter
619-B East High Street
Charlottesville, Virginia 22901
(804) 295-6106

The Nature Conservancy is a national, nonprofit membership organization whose primary concern is the protection of ecologically significant natural areas and the diverse flora and fauna which they support. Its activities include the identification of important natural areas and the protection of these areas through acquisition or management assistance.

Piedmont Environmental Council
28-C Main Street
Box 460
Warrenton, Virginia 22186
(703) 347-2334

The Piedmont Environmental Council is a nonprofit membership organization which seeks to conserve the historic character and natural resources of a nine-county area in the northern Piedmont while providing for the orderly economic development of the region. The council offers advice to landowners on voluntary landscape protection procedures such as open space easements; advocates the adoption of protective land use programs and policies at the county, state, and federal levels; and assists local jurisdictions in developing land use programs.

Potomac Appalachian Trail Club
1718 N Street, N.W.
Washington, D.C. 20036
(202) 638-5306

The Potomac Appalachian Trail Club is a nonprofit membership organization dedicated to the development, maintenance, and protection of the Appalachian and other trails in Pennsylvania, Maryland, Virginia, and the District of Columbia. PATC also accepts gifts of lands and easements to assure access to trails and to protect trail corridors from development.

"Open space and solitude—once they are gone, are gone forever."
Rural Virginia Beach; photo by Bill Portlock.

goes, so goes the health of man.

Summer cottages, developments, shopping centers, roads, factories and other products of man are being built in and around watersheds that feed the Chesapeake Bay ecosystem, consuming habitat for wildlife and solitude for man. Riverfront properties are losing their protective timber, and a depressed agriculture makes it difficult for farmers to justify the expense of permanent covers on the land that would slow erosion and preserve water quality.

So, the quiet places, the Bay's outer layers of defense, are disappearing.

But, it is not too late to change—to amend the process. Landowners can assist in the preservation of the Bay ecosystem by protecting a part of the shoreline that they own. The landowner can guarantee the integrity of his property so that future owners do not environmentally abuse it. Through a conservation easement, a landowner can leave for future generations the riches of the open space that he and other species have benefited from in his own lifetime. Plus, he can play an important role in helping to preserve the ecology of the Bay for years to come.

A conservation easement is a legal document in which the title to private property is kept by the owner. Only those rights which the owner may specifically agree to give up in the easement can be transferred to the recipient of the easement. The recipient of an easement is an organization or other such entity that has the capability to insure the safety of the easement over time.

The Chesapeake Bay Foundation is one such organization. The Virgina Outdoors Foundation is another (See *Virginia Wildlife*,"Saving the Farm From a Sellout," May 1987).

An easement is signed and recorded like other deeds and is a covenant running with title to the land. With the easement, the landowner agrees to protect the existing character of his property, and future owners of the land are bound by the terms of the easement.

The landowner has flexibility in creating an easement. A person may specifically list what he wishes to do with his land. For example, the future use of the land could be designated as a preserve for Canada geese, or it could be left to remain as a mixture of hardwoods and open areas to benefit wild birds and animals. Woodlands could be preserved to buffer soil runoff, marshes preserved for ducks, or strategic shoreline protected from future development. Nor does an easement have to be put upon an entire piece of property. Since the character of land differs, it could be that just part of a given tract will be protected with a conservation easement. If a landowner would like to sell part of his farm for the fair market value, but wishes to preserve the marsh, the woodlot, and the integrity of the creek that runs through the property, then he may do so.

As long as the easement has a conservation objective, then it can be tailored to a landowner's needs and satisfactions. Most of all, natural protective areas that will preserve water quality are what is needed on the Chesapeake Bay watershed.

The Chesapeake Bay is a valuable resource that needs the efforts of all Virginians if it is to be preserved. Open space, with adequate vegetative cover, can provide the protective buffer zones that will absorb soil runoff and the pollutants that affect the waters of the Chesapeake Bay. Through conservation easements, landowners can leave for future generations a part of the treasure that is now ours to enjoy. After all, open space and solitude—once they are gone, are gone forever.

Because of the immediate need to protect the shoreline environment of the Chesapeake Bay and its tributaries, the Chesapeake Bay Foundation and the Virginia Division of Soil and Water Conservation have joined together to preserve open space in Virginia. They have established a land conservation office in Tappahannock, and Virginia Land Conservation Coordinator, Jerry Stokes, is available to assist landowners in protecting key river corridor lands.

For more information on the conservation easement program in Virginia, contact Jerry Stokes at P.O. Box 1674, Tappahannock, Virginia 22560, or by telephone at (804) 443-5629. □

Randall Shank is an agricultural extension agent in King William County.

A Forgotten Compromise

The 11 a.m. closing of spring gobbler season has a colorful history—but most hunters have never heard the story.

by C. H. "Kit" Shaffer

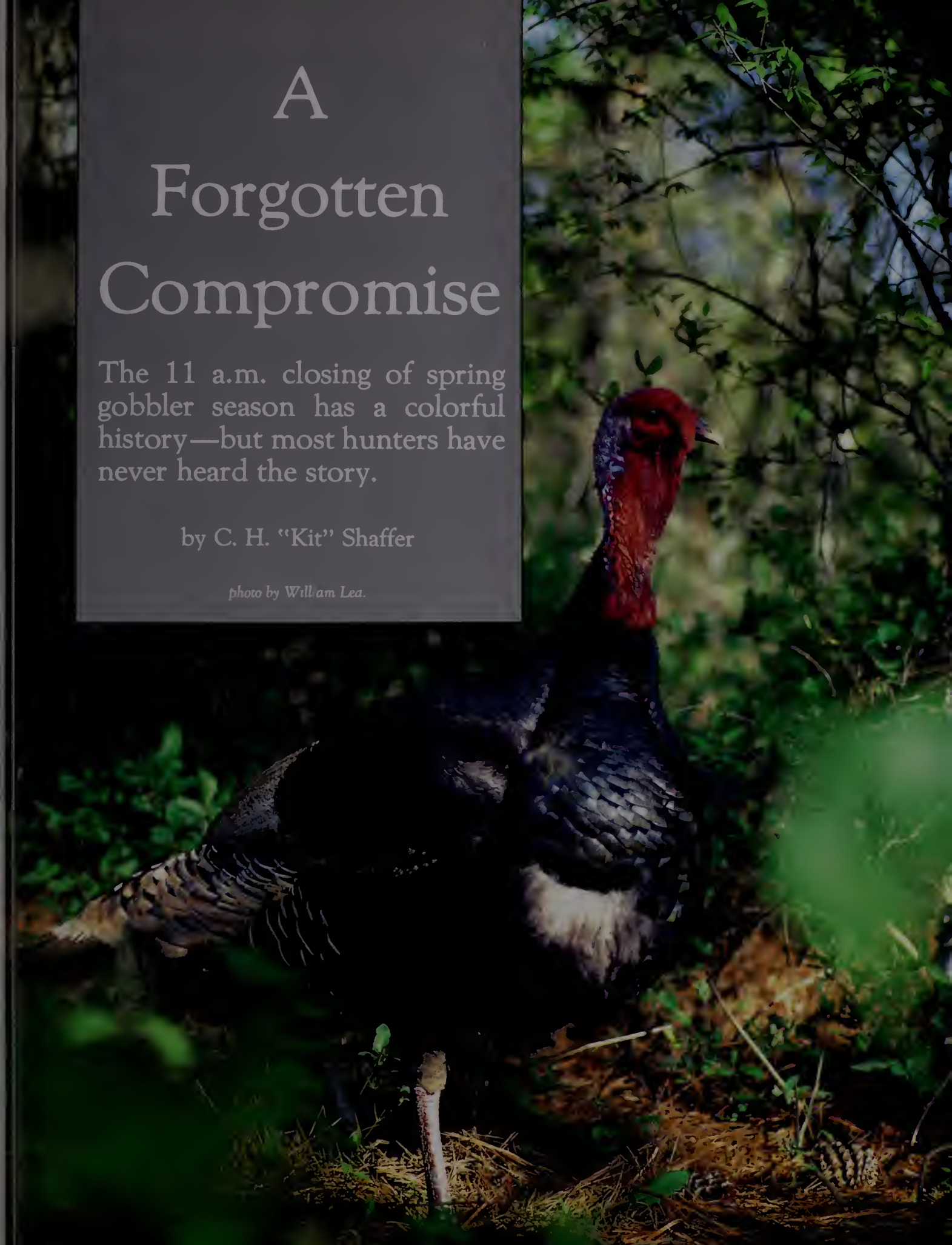


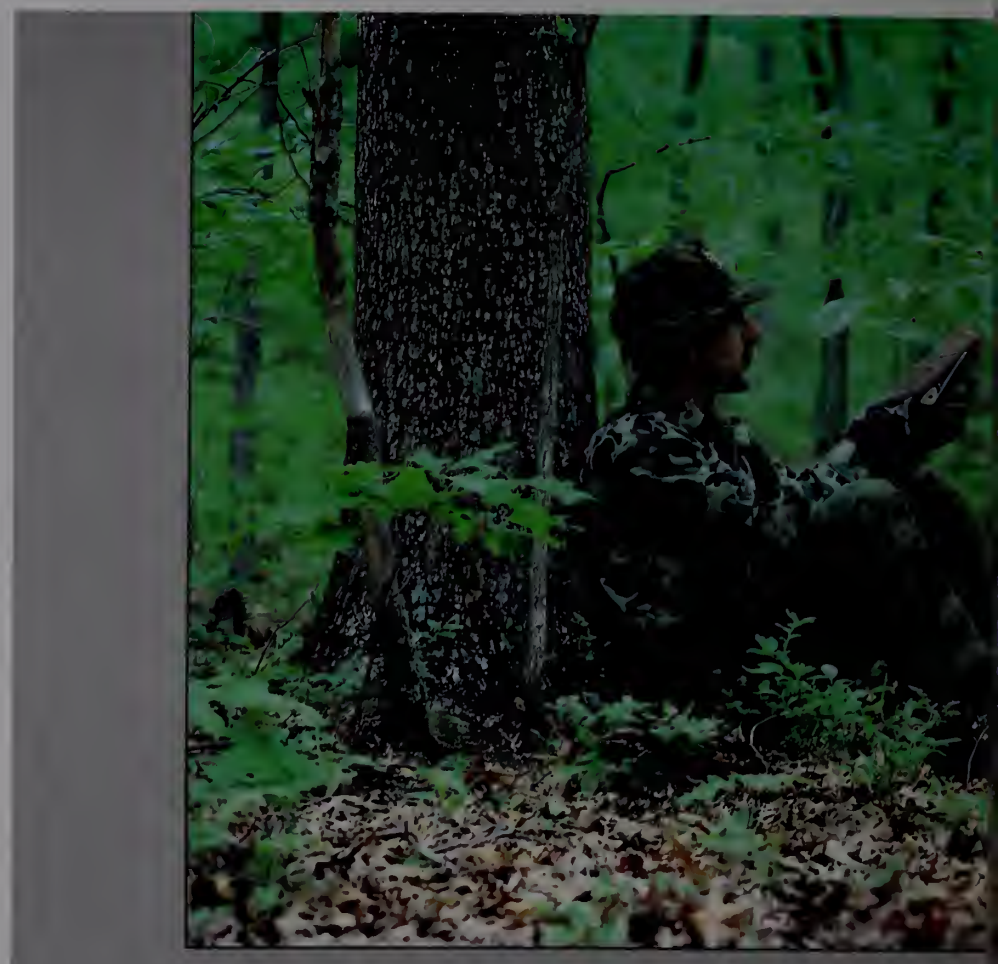
photo by William Lea.

Regulations which govern hunting seasons, bag limits and other related rules of conduct afield vary a great deal from state to state. In general, regulations are passed for a variety of reasons: specific conservation needs, traditions, pressures from certain sporting organizations, and experiences from other states. Naturally, regulations must be repealed, deleted or liberalized periodically to reflect trends in wildlife populations.

But, often, the original reasons for long-standing game regulations have been forgotten. Each specific law or regulation, however, usually has an interesting history behind it. Virginia's regulation establishing the hours that spring gobblers can be hunted is a good case in point. The regulation specifies that bearded turkeys only can be hunted from "one half hour before sunrise until 11 a.m. each day." And, for many years, the Game Department (then known as the Commission) has set the spring season to include 25 consecutive hunting days during April and May.

Most sportsmen are aware of the fact that certain gobblers during their spring mating rituals will continue to gobble throughout the entire day and evening. I have spent many delightful days in the springtime observing turkey tom behavior, and many years in the past, I hit the gobbler jackpot in an area near Thrasher's Creek in the eastern foothills of the Blue Ridge Mountains. I had spent the entire day and evening locating and working gobblers. Would you believe that by nightfall I had worked on 13 different tom turkeys? Since this experience occurred prior to the opening of our season, the large male birds had not been conditioned against those artificial hen calls, and thus were easy to fool.

My experiences that particular day and on many others, however, convinced me that the daybreak hours are the best time to hunt the big gobblers. Gobbling usually wanes during the middle of the day, and then intensifies during the evening hours. In fact, many skilled wild turkey chasers remain in the woods until night to hear the last gobble from the roost, since this is an excellent technique to pinpoint the old birds for the daylight action the next morning.



People have most likely forgotten the history of the traditional 11 a.m. closing of spring turkey hunting, but at one time, it was a highly charged issue; photo by Lynda Richardson.

In a number of states, spring gobbler hunters are permitted to pursue their quarry legally during all of the daylight hours. We have often been asked the reasons or rationale behind that eleven o'clock curfew in the Old Dominion.

It is difficult to believe today that the battle for a spring tom season was difficult, long and stormy. It was almost 30 years ago, when observing and studying springtime turkey seasons in Alabama and other states that traditionally had open season, that Virginia's Game Department decided to experiment with a similar season.

The immediate opposition which this proposal aroused was widespread, vehement, and at times even venomous! I should know; it was my job to attend sportsmens' meetings throughout the state to explain the Game Department's rationale and attempt to sell this revolutionary sport to the hunting public. At many meetings, we were openly criticized and ridiculed. On several occasions, I fully expected to be covered with hot tar and feathers or hung from the nearest tree limb.

In one Piedmont county, the proposed spring tom season was tested by a referendum and voted down overwhelmingly. The very thought of turning loose a horde of careless turkey hunters during the beautiful springtime, when all of God's birds and animals were trying to reproduce their young, seemed lunatic and irresponsible to many. Our outspoken critics argued that spring turkeys should not be subject to additional hunting pressure after they had survived stressful winter months. We were warned that nesting grouse and turkeys would be shot off of their nests, and that these

game species would soon be extirpated. Our most ardent opponents forecast a ruined environment because of the onslaught of an army of crazy gobbler chasers!

Some of our most serious critics at that time, however, were professional foresters who questioned the wisdom of spring gobbler seasons. They emphasized that, statistically and historically, springtime was their most dangerous season for field and forest fires. During the normal years, high winds along with dry grass and leaves tended to intensify hazards to the woods and fields. The thought of many thousands of spring gobbler hunters out there with their cigarettes, pipes, matches and camp fires frightened those commercial and public foresters charged with fire prevention and suppression.

We honestly couldn't fault their reasoning or their concern for their resources. Some commercial forest executives even threatened to close their lands to spring gobbler hunting should the season be enacted.

The foresters did concede, however, that under normal conditions, dews covered springtime mornings, and that winds were either nonexistent or calmer early in the day. Unfortunately, as the day progresses, winds increase significantly, and forest fire possibilities are multiplied in proportion.

As the debate raged on, rational forestry and game management officials met to iron out their differences and finally agreed on a compromise. The eleven o'clock closing time for spring gobbler hunting was later enacted as a regulation by the Game Department.

In retrospect, those early years of the spring season were anxious ones; at times we felt like we were sitting on a powder keg. After all, we didn't know for certain if the revolutionary turkey season would succeed in historically conservative Virginia. The Department started out cautiously by opening only four experimental wildlife management areas the first spring season. The following year, spring gobbler hunting was expanded to four of our 100 counties. Gradually, more counties were added amidst warnings from individuals who detested the entire concept of spring turkey season.

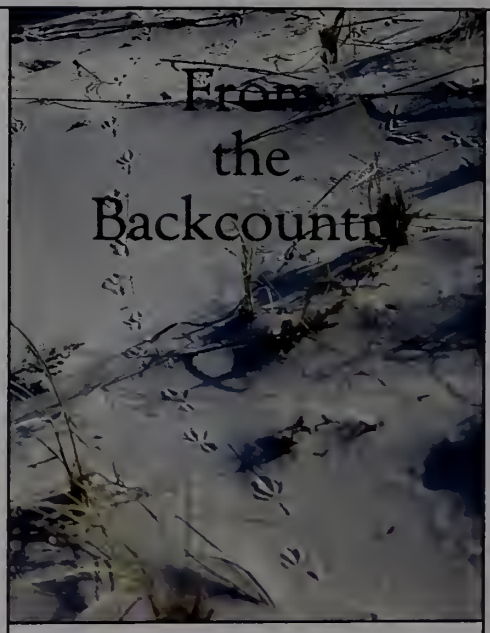
Today, the entire state is open to spring gobbler hunting. It is now one of the most popular forms of hunting. Game Department biologists estimate that each spring between 60,000 and 70,000 wild turkey hunters chase those elusive large gobblers. During recent seasons, over 5,000 of these large trophies have been harvested annually. The spring gobbler season experiment was extremely successful despite the dismal forecasts from the prophets of doom.

Through all the good and bad years of the spring turkey season, the 11 a.m. closing time has remained constant. Actually, the curfew regulation is not all that objectionable, since there are some obvious advantages to a shorter hunting day. After getting out of bed daily at three in the morning and hunting strenuously, most of us spring gobbler chasers are so worn out physically and mentally that we are happy to knock it off at 11 a.m. to return to our beds. An additional nine hours of pursuing turkeys daily would be rough; indeed, it would be difficult for some of us to survive.

The forest fire arguments concerning high winds and dry leaves still remains valid, too. Plus, an eleven bells closing hour prevents additional hunter interference to farm and forest workers.

Finally, those who love to chase gobblers but must work for a living, can hunt for about three hours every morning, return to work and suffer through the rest of the day—hoping they have the strength to make it 'till the next morning and another three hours of madness. □

Retired Game Department biologist and legendary turkey hunter, Kit Shaffer now lives in Lynchburg.



Afield and Afloat in Virginia

by Jack Randolph

This is a great month for the fellow who likes to catch fish on top. Whether his preference be topwater lures for largemouths or flies for smallmouths and trout, July is prime time.

When it comes to fishing surface lures for largemouths, the best fishing usually happens when dawn has just edged darkness off the water. The surface waters have cooled overnight and bass are comfortable cruising the shallows looking for an opportunistic meal.

We look at surface baits for bass as belonging to one of two types. One we call "walkers" and the others we call "workers."

Rather than patrol the shoreline, pegging casts at right angles to the bank, it's better to edge in close and work lures in the shallow water parallel to the shore. This tends to keep the bait in productive water longer. To do this, it's best to use surface lures in the "walker" category.

A "walker" is a bait that has to move across the water in order to lure strikes. It can't sit in one place and do the job. Among the "walker" type of lures are the great Jitterbug, Crazy Crawler, and the wide variety of buzz baits on the market today. These lures are ideal for covering long stretches of shallow water.

The "worker" is a lure that can sit in one place and produce strikes. This category includes such baits as the Hula Popper, Zara Spook, Dying Quiver and the whole family of stick baits. These are perfect for working a small hole in a weed bed or for coaxing a bass out from under a cypress tree.

When fishing any top water bait, your success will improve if you use your bait creatively. Let's start with the cast. Any bass in shallow water is alert for dangers to it as well as food it may capture. A heavy splash from a lure cast into his neighborhood can mean food or foe. The bass has to decide which. The first instinct is caution. For this reason, it's a good idea to let a bait stay where it hits a half minute or so before starting the retrieve.

The retrieve itself has room for lots of imagination. Coaxing a bass to strike is like playing with a kitten. A lure that is simply cast out and reeled in isn't as attractive to a fish as one that is retrieved at various speeds between pauses, or twitches. The more the action is varied, the better the chances for a strike.

Striped bass are also attracted to topwater baits this month. Their activity may start at dusk and continue through the following dawn. Baits such as Cordell's Pencil Popper and other weighted stick baits are excellent choices.

On the smallmouth streams Heddon's Tiny Torpedo is probably the favorite topwater lure, but smaller versions of the Jitterbug, Lucky 13 and similar baits are also excellent choices. □

Boaters and Water Quality

As the number of boaters grows, the impacts of improper waste disposal, improper boat maintenance and poor boating habits threaten Virginia's waters and the species that live in them. You can help reduce the impact that your boat has on the environment by following some simple procedures. A new 8-page Chesapeake Bay fact sheet, "Your Boat and the Bay" contains tips on environmentally safe boating.

In addition, the brochure provides a detailed listing of the roughly 60 pump-out facilities in the Bay region including costs, hours and phone numbers. If you would like a free copy of this publication, write to Judith Wiley, Chesapeake Bay Foundation, 1001 E. Main St., Suite 815, Richmond, VA 23219. □

"Baybook" Available

The Citizens Program for the Chesapeake Bay, Inc., has updated and reprinted its citizens guide to helping the bay.

"Baybook" provides helpful, practical advice on everyday conservation around the home. The book is a collaboration between the Citizens Program, Chesapeake Bay Foundation, Maryland Soil Conservation Committee, University of Maryland Cooperative Extension Service, U.S. Soil Conservation Service, and the Maryland Office of Environmental Programs.

Copies of "Baybook" are available for $1.00 from Citizens Program for the Chesapeake Bay, Inc., 6600 York Road, Baltimore, MD 21212. □

Richard H. Cross Retires

It was 1942 and a young Dick Cross was just out of VPI & SU and looking forward to a career in wildlife. It was an exciting time, populations of Virginia's game animals were being restored from all time lows and biologists were busy with vitally important work.

Nine months later, Dick Cross was headed for even more necessary work as a World War II fighter pilot in the Mediterranean. Three years later he had accomplished his mission with honors and immediately returned to the Game Commission.

For the next 13 years, Cross worked on field projects that greatly benefited the hunters of Virginia, restoring and enhancing the Commonwealth's wildlife. In 1958 he was chosen to lead the team as chief of the Game Division.

With 20 years on the job as the state's chief game biologist, Dick Cross was named assistant executive director in 1978. He took charge of his new responsibilities with his customary competence and diligence, and in 1981 Dick Cross was picked by the Commission to run the agency.

Now, after 45 years of dedicated service to the Commission and the sportsmen of Virginia, Richard H. Cross is retiring. On July 1, 1987, Cross hands the reins of executive director over to James Remington. From all of us who know and respect Dick Cross as a sportsman, a conservationist, and a gentleman, we wish him fair mornings of good fishing, long afternoons of bird hunting, and endless evenings with those friends that mean the most to him—the ones with mud on their boots and hunting tales waiting to be told.

Thank you, Dick. □

Richard H. Cross

New Director Takes Charge

Mr. James A. Remington, a 57-year-old Richmond, Virginia resident has been appointed executive director of the Department of Game and Inland Fisheries effective July 1, 1987. Remington's appointment was made by a selection committee of five commissioners from the department's 10-member board.

Remington is currently president of the Omega Group, a management consulting firm with offices in Richmond. He is a former executive vice president of operations for Philip Morris Inc., currently serves on the Governor's Commission for Efficiency in Government, and is on boards for Signet Banking Corporation, the Board of Visitors of Virginia State University, the Business School of Virginia Commonwealth University, the Carpenter Center and the Metro Chamber.

Remington is past chairman of the Citizens' Task Force for the City of Richmond, and has served on boards for the Center for Advanced Studies at the University of Virginia, Richmond Renaissance, Richmond Goodwill Industries and the Business School of the University of Richmond.

Remington is a native of New York state and retired from Philip Morris three years ago. He is a graduate of Iowa State University and finished postgraduate work at Harvard Business School. Mr. Remington is married, and has five children all of whom are grown and live and work in Virginia. □

James A. Remington

Nesting Troubles

In April of 1986, *Virginia Wildlife* featured an article entitled "Fisherbirds." It was a photographic essay of several species of herons and egrets that grace Virginia's waterways. Unfortunately, the largest of the egret species, the great egret, has come on hard times in Virginia.

These federally-protected birds have always made our coast their home, from Chincoteague to Hampton Roads. However, their homesites vary from place to place. All along the Eastern Shore, great egrets typically nest in dense clusters of small trees or island shrubs. But in the Tidewater area, old open stands of pine play host for two months out of the year to the large colonial rookeries of these winged fishermen. The only trouble is that now house after house has nestled in under the pines, sometimes allowing the trees to stay, sometimes taking their place.

The birds take it all in. They shift over to a new tree maybe, but they stay. They have not only adapted to man's presence, one might even be tempted to say they look for it. In any event, this translates into a population of egrets in residential areas that comprises almost 50 percent of their statewide population.

Unfortunately, the feeling between birds and man is rarely mutual. And this spring saw a change in people's attitudes that may impact the egrets for years to come. It began innocently enough with one new homeowner who decided that he could no longer tolerate a colony of nesting egrets over his house, a colony that had nested there long before the house was built. After days of constant harassment, the colony abandoned the site and this gentleman's success made local headlines. From this point on, one resident after another began to do likewise, pushing the nesting birds from one traditional nesting site to another.

The results are alarming. Approximately 60 percent of the residential population of nesting egrets have been moved by one or more artificial means this spring. Seventy-one percent of this population now resides in one dense colony under which sits a newly-constructed house whose owner vehemently declares that he will not tolerate their presence in the spring of 1988. In addition, 84 percent of all homeowners interviewed stated that they too would use harassment tactics to remove the birds from their yards should the occasion present itself.

Finding a place for man and birds to coexist is not going to be easy. They are noisy, messy, and can generate quite an odor over time. But, unfortunately, we can't pick their nesting sites; only *they* know exactly what they're looking for. There are however, certain measures that can be taken by homeowners to alleviate the disagreeable side effects of nesting egrets without driving them away:

1. Regularly spray excrement with water under nesting sites near the home. Odoriferous compounds in droppings are water soluble and can easily be leached into the soil. This practice greatly reduces any odors and enriches the soil.

2. Use water to rinse droppings from shrubbery. Caustic substances in droppings may cause minor foliage damage to delicate shrubs. Damage can be easily avoided by regular spraying.

3. Rake and remove fallen food remains. At times, food items may fall and collect under nest sites. Removal and disposal of these remains will aesthetically improve surroundings and maintain desirable levels of sanitation.

So often, we make the mistake of thinking that conservation should be easy. If we pick up a bit of litter, write a couple of letters to our congressman, and pay our dues to a conservation organization, we have done our "wildlife duty." It is a shock, and not entirely well-received by all of us who are use to the comforts of our affluent society, to realize that true conservation will, at some time or another, require personal sacrifice. In the case of nesting egrets, the sacrifice is not a glamorous one, like standing in a picket line or rescuing birds from an oil spill. Coexisting with nesting egrets is a smelly, dirty two-month sacrifice; one that intrudes upon our lives with all the glamour of a pile of manure.

But *that* is what conservation means. We simply will have no egrets, no herons, without personal sacrifice. And those people who are willing to make that kind of sacrifice deserve our respect, our praise, and our thanks. They are far greater conservationists than most of us.

Note: The Game Department has recently published a brochure on the wading birds of Virginia's shores, to inform the public of problems currently faced by wading birds, and to emphasize ways in which landowners can help. If you would like a free copy of this publication, write to: Virginia Game Department, Education Division, P.O. Box 11104, Richmond, Virginia 23230-1104. □

Good Reading

Until now, it's a story that's never been fully told.

The tale opens as a near-tragedy, continues as an action-adventure, and culminates in a happy ending, though the final chapter in the saga remains to be written.

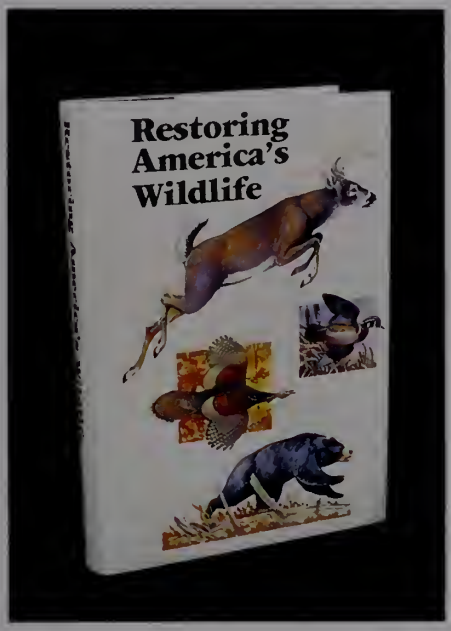
It's the story of America's wildlife and it promises to be 1987's conservation bestseller.

Restoring America's Wildlife, published by the Interior Department's U.S. Fish and Wildlife Service, chronicles 50 years of wildlife conservation in America from the Dust Bowl days of the Great Depression, when wood ducks and wild turkeys were as rare as a dollar bill, to today, as many species of game animals hit the highest population levels of this century.

Publication of *Restoring America's Wildlife* marks the half-century anniversary of the Federal Aid in Wildlife Restoration Act, a far-sighted program created in 1937 by some gifted visionaries who helped engineer the world's most remarkable rebound of native wildlife. Under this national conservation program, now popularly known as the "Pittman-Robertson" program, dozens of the nation's most highly prized game species of birds and mammals have re-emerged to record levels, testimony to the wisdom of professional wildlife management and the amazing recuperative power of wildlife species.

For hunters, outdoor hobbyists, conservationists, and students of wildlife management, *Restoring America's Wildlife* is "must" reading for anyone seeking to understand conservation in the United States over the past 50 years and hoping to predict future trends in wildlife enhancement.

The 394-page hardcover volume, *Restoring America's Wildlife,* is currently being offered for sale at $15 through October 31, 1987 from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325. (Specify stock number 024-010-00671-4.) This introductory price includes regular domestic postage and handling charges. Payment may be made by personal check payable to the Superintendent of Documents, by Government Printing Office deposit account, or by VISA, MasterCard, or Choice credit cards. Credit card and deposit account customers may also place orders by telephone, 202-783-3238, specifying title and stock number. □



New Name

As of July 1, 1987, the Game Commission adopted a slightly different name. We are now officially called the *Department of Game and Inland Fisheries.* □

Duck Stamp Price Goes Up

The price of the Federal Migratory Bird Hunting and Conservation Stamp, better known as the "duck stamp," will rise from $7.50 to $10.00 on July 1, 1987. All proceeds from the sale of these revenue stamps are used by the U.S. Fish and Wildlife Service to acquire vital wetland habitat for addition to the National Wildlife Refuge System.

The authorization for the duck stamp price increase was a major provision contained in the Emergency Wetlands Resources Act of 1986, passed by Congress in an attempt to stem the continuing wetlands loss. The Act also calls for raising the duck stamp's price to $12.50 in 1989-90 and to $15.00 in 1991 and subsequent years.

All waterfowl hunters 16 years of age and over are required to purchase a duck stamp each year. However, more and more people interested in conservation and the out-of-doors are purchasing the stamps as a means of supporting wetlands conservation through the Migratory Bird Conservation Fund. The proceeds from duck stamp sales are deposited in this fund and, since the program began in 1934, over $300 million has been used to purchase more than 3.5 million acres of vital wetland habitat. □

V·I·R·G·I·N·I·A'·S

The Raccoon

W·I·L·D·L·I·F·E

by Barbara Bassett
photo by Lynda Richardson

My grandfather Emery was, to say the least, not a picky eater. As a boy he ate raw eggs from the neighbor's chickens and whatever he could scrounge from the woods. When an adult, his diet was family legend. He once consumed a piece of homemade cheese without removing the cheesecloth, and during one of his after-dinner forages, drank a cup of coffee with a cigar butt in it.

Grandfather lived to be 92, a fact I attribute in large part to his eating habits. In doing so, he seems to have utilized the number one rule of raccoon survival: Eat Anything.

More than any other factor, it's the raccoon's incredibly varied diet that has made it a success in a modern, man-altered world. The raccoon is doing well almost everywhere in the U.S., with the total population estimated to be about the same as in colonial times. In Virginia, population densities range from as low as one raccoon per 68 acres west of the Blue Ridge to as high as one per five acres in Tidewater.

Where other animals die out because their specific food source is eliminated, raccoons just eat something else. Beside the grapes, crayfish and corn that are their storybook favorites, their menu includes a lot of things not quite so pleasant to contemplate. Raccoons eat insects—all kinds, including beetles, caterpillars and cicadas. They eat salamanders, though they first peel off the glutinous skin. Coons will feed on fish dropped from rookeries by young herons and cormorants; they will excavate hornet's nests for larvae; they will raid songbird nests and eat eggs and fledglings. They eat baby alligators, bats, road-killed deer, cordgrass, cattle feed, centipedes and slugs.

And garbage, in case anyone doesn't know. In fact, in areas where garbage is plentiful (like suburbs, parks and resorts), raccoons reach much higher densities than in the wild.

Of course, garbage generally comes in cans, which brings us to the second rule of raccoon survival: Investigate Everything.

The raccoon is equipped for this task with two features that are uncomfortably humanoid. First, a coon's paws are very much like human hands. Each has five long, soft-skinned fingers, and a hairless palm that is extremely sensitive. In the wild, they are excellent tools for catching crayfish, prying out grubs, scooping eggs from tree hollows, and other foraging operations. In the man-made environment, they are just as useful. An orphaned raccoon I once raised could open cabinet doors, turn on the kitchen faucet, and delicately remove my glasses from my face.

The other coon characteristic that's similar to ours is a problem-solving ability. Although research has shown that raccoons are only of average animal intelligence, they do seem to have a knack for lids, latches, hooks and handles. In one experiment, a raccoon figured out a latch-type puzzle in 17 minutes on the first try, four minutes on the second, and almost instantly thereafter.

This makes raccoons formidable opponents in any situation where they must be kept in or out of something. My favorite anecdote in this regard is one described by George Laycock in *Audubon* magazine. He told of a raccoon, kept overnight in a laboratory, which managed to release the latch on its own cage. Apparently not content with this feat, it proceeded to free all the experimental rabbits in the room as well.

Because raccoons have some traits similar to ours, however, it's easy to think of them as little furry people, or as pets. This isn't a good idea anytime, but these days it is particularly unwise. Like other states on the Eastern seaboard, Virginia is experiencing an epidemic of raccoon rabies, which is transmissable to humans. Any raccoon which seems to be acting strangely should be left strictly alone and the police or health department notified.

Despite the old expression about "a coon's age," raccoons don't live long in the wild. Two years is about average, though some may reach eight or 10. The raccoon flourishes, though because it is a tremendously adaptable species, one that is able to thrive in close company with that other clever, dexterous omnivore—man. □

Barbara Bassett is a freelance writer living in Columbia, Missouri.

It's About Time

Time to go fishin', time to look for robins migrating through your neighborhood, time to dust off the old shotgun for bird hunting, time to tow your boat down to Norfolk for Harborfest.

It's the *Virginia Wildlife Sportsman's Calendar,* and many people consider it their best outdoor time manager. It's about times when the big ones are biting—and where! It's about times when you can hunt deer and squirrels and rabbits. It's about the week to drive to the Blue Ridge Mountains and watch the hawks soaring south. It is about your good times outdoors.

It's about time to order your *Virginia Wildlife Sportsman's Calendar.* Use the form that's just behind the back cover of this magazine. If someone's already used this handy order form, just send $5.00 for each calendar desired to: Sportsman's Calendar, Virginia Game Department, Box 11104, Richmond, Virginia 23230-1104.